

enc. including list

October 25, 1960

Dr. John Strong
Department of Physics
Johns Hopkins University
Baltimore, Maryland

Dear Doctor Strong:

We are now actively engaged in the design of instrumentation for the detection of life on other planets. My own particular concern is for those experiments that can be landed on Mars and are designed to give information on the presence of microorganisms in the Martian soil. We have spent a good deal of time until now in crystallizing our basic approaches and are only just now getting well started in developing the actual instrumentation. A number of approaches are being cultivated but all of them will make heavy demands on the state of the art in optics and electronics.

An instrument that would be particularly useful as the basis for a variety of accessories for specific purposes would be a fast scanning ultraviolet microspectrophotometer. This instrument should be capable of discriminating individual particles, possibly after some preliminary fractionation, and characterizing them as being microbial or mineral. The requirement for speed in the spectral scan is to enable the instrument to look at specimens in which microorganisms are a small minority, as we must expect to be the case.

At Stanford, we can count on very substantial help from my colleagues in electrical engineering and physics as well as from several of the local industrial laboratories. Interest and talent in microbiology and biochemistry likewise present no problems. However, if we are to proceed extraditionally with this work, and especially if we are to make preliminary forays along a variety of different lines, we should acquire the best possible talent in our own laboratory for the engineering aspects. I am writing to ask you for any recommendations that you might have for a research associate with a strong background in optics and electronics. I believe that the program should be a challenging and fascinating one and hope that you may know of some qualified people who would enjoy working in a small group with diverse talents on this problem.

In addition to the associate, we would also have an opening for a technician to assist in the same area.

Your observations on planetary atmospheres are, of course, highly relevant to our own interests and I would be very much indebted to you to be kept on your mailing list for the consequent publications.

Yours sincerely,

Joshua Lederberg
Professor of Genetics

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JL/jh